

DISCLAIMER: These Standard Operating Procedures (SOP's) are for the exclusive use of Navy Public Works Center (PWC) Norfolk. They are promulgated as guidance for their NAVFAC Commands. If intended to be used by other activities, they must be tailored to each activity's particular requirements and must be reviewed/approved by the activity's safety professionals prior to use.

SOP Title: **Routine Maintenance of Gel-Cell Batteries**

SOP Number: **WC 675 07**

Written by: Ted Gibson & David Lane Date: 01/ 13/ 96.

Revised by: _____ Date: / /.

Approved by: _____ Date: / /.

Potential Energy Sources:

1. Electrical supply (480 Vac, 125 Vdc, 400 Vdc).

References:

1. OSHA 1910.147, The Control of Hazardous Energy (lockout/tagout).
2. PWC 5100.33E Chapter 24, Energy Control Sources.
3. OSHA 1910 Subpart I, Personal Protective Equipment (PPE).
4. PWC 5100.33E Chapter 20, Personal Protective Equipment (PPE).

Tools Required: Hard hat, safety shoes, safety glasses, work gloves, flame retardant clothing, insulated tools, multimeter, torque wrench, baking soda, NO-OX compound, fiber bristle brush, burlap cloth.

Procedures:

1. Ensure proper PPE is worn [references (3) and (4)].
2. Visually inspect area for hazards.
3. Visually inspect batteries and battery rack for hazards.
4. Secure power to batteries by locking/tagging charger output breaker or charger.
5. Verify power is secured.
- 6a. Clean and wash containers with clear water. If any electrolyte is on the containers, neutralize with a mixture of one pound baking soda per gallon of water. Remove all traces of soda with clear water.
- 6b. Clean posts and bolted electrical surfaces by:
 - 6b1. Remove dirt and any coating with clean, dry cloth.
 - 6b2. Clean with solution of one pound baking soda per gallon of water. DO NOT USE sandpaper, steel wool, emory cloth, or solvents as they will damage lead plating on the posts. If necessary, use fiber bristle brush. USE EXTREME CAUTION when cleaning around vents to ensure the neutralizing solution does not enter cell. Remove all traces of soda with clear water.
 - 6b3. Buff connectors with burlap cloth until shiny.
- 6c. Apply NO-OX compound to posts and connectors, reconnect cells together and tighten to 70 in-lbs of torque.
7. Restore power by clearing locks and tags.
8. Verify power is restored.
9. Verify batteries are charging properly.
10. Clean up area and dispose of debris.